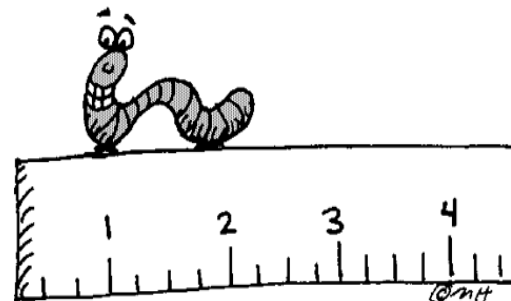


Summer Math Calendar

(Entering) Third Grade



Get ready to discover math all around you this summer! Just as teachers encourage students to continue reading throughout the summer to solidify and retain reading skills, we feel the same attention should be given to mathematics. Regular practice over the summer with problem solving, computation, and math facts will maintain and strengthen math gains made over the school year. The Math Specialists of Brookline have created this summer math calendar to provide your child and your family with a variety of math activities to explore this summer.

Inside you'll find creative activities that include measuring and counting everyday objects, math games, riddles, basic facts practice, math web sites and math literature books (available through Brookline's public libraries). The activities reflect a range of difficulty with the intent that your child can choose the activities that are at a "just right" level. The goal is for your child to have fun thinking and working collaboratively with you while communicating his/her mathematical ideas. While you are working on these activities, ask your child **how** he found that solution or **why** she chose that strategy. These activities help reinforce the concepts/skills your child learned this past year so that s/he can retain them over the summer.

This packet consists of 2 calendar pages, one for July and one for August, an alternate summer math calendar as well as directions for math games to be played at home. (Note: a substitute for numeral cards can be a regular deck of cards without the face cards or Uno cards.) Each month's activities are organized into 28 "math boxes." ***You can choose which activities you'd like to complete on which day.*** We encourage your child to complete 20 math boxes each month. After completing a box, color it in. In September return the calendar, with your signature, to your child's new teacher.

We recommend that you integrate an average of 15-20 minutes of math activities into your child's day, including completing the enclosed activities *and* reviewing basic facts. Number facts can be practiced and reinforced through repeated use in games, real-life problems, songs, rhymes, and cards. Help your child to identify "FACTS I KNOW" and the "FACTS I AM WORKING ON." Think of regular and convenient times to review these facts, such as waiting in line, driving in a car, riding the train, reading time, etc.

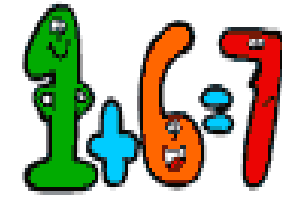
We hope that you will enjoy the activities, extend them, create new ones and have fun!

We welcome your feedback on the calendar (angela_allen@brookline.k12.ma.us).

Public Schools of Brookline
K-8 Mathematics Department
Revised Spring 2010



July Third Grade Calendar Brookline



Directions: Complete **any** 20 math boxes and color in the box after you complete it. Return the Math Calendar to school in the fall.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Play a game. Turn Over 10 (see directions)	25+2 26+2 27+2 28+2 29+2 What's your strategy?	Look in your refrigerator. Categorize the items as dairy, fruit, vegetable, meat, grains, fats, or other. Make a tally chart.	How many more popsicles do I need to buy if I already have 6 and I want to have 11? What's the number sentence?	Create a pictograph of the drinks in your house. Categorize the drinks according to where they come from, e.g., plants, animals, man-made.	How many cents do I have if I have 1 quarter, 2 dimes, 2 nickels and 3 pennies? Can you show that value with different coins?	Play Patch Tool on the web.* Choose one shape. Make a pattern using the flip tool.
Create a symmetrical picture using: triangles, squares, circles, and/or trapezoids. Draw the horizontal & vertical lines of symmetry. Create another.	Play Concentration with <i>fractions</i> on the web.* <i>Cards: fractions</i> Draw pictures that represent $\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{4}$, $\frac{2}{3}$, and one whole.	How many times can you hop on your left foot in a minute? your right foot? Compare the number of hops using the symbols <, > or =.	Read • The Sunday Scoop by Stuart Murphy. How many possible combinations can you make w/2 ice cream flavors and 3 toppings?	10-6 10-7 10-8 10-9 10-10 What's your strategy?	Play a game like Δ Chips or Shut the Box.	I have 7 puppies but I want 19. What do I have to do? I have 12 fleas but I only want 5. What do I need to do?
Name 5 ways to make 30 cents. Draw a picture to show your thinking and write the number sentences.	2 groups of 2= 2 groups of 3= 2 groups of 4= 2 groups of 5= What's your strategy?	Play a game. Pairs of 100 (see directions)	Find a place outside where you can observe creatures. Watch for 10 minutes. Record what you see. Create a bargraph to show your data.	Read • Alexander Who Used to be Rich Last Sunday by Judith Viorst. How would YOU spend \$20?	6+6 7+7 8+8 9+9 10+10 What's your strategy?	How many different ways can you cut a sandwich into four equal pieces? Try it with real or "paper sandwiches."
Read • Sluggers' Car Wash by Stuart Murphy. How could you make \$20? Clean the garage (\$5), empty trash (\$1), wash a car (\$2). Write equation.	Think about your schedule for the day. What will you do? Create a schedule to record your activities between 7am-2pm.	Today is Tuesday. What is today's date? What was the day and the date 2 days ago? What will tomorrow's day and date be? What day and date will it be in 1 week?	Explore a website* Play Pan Balance-Shapes (Fixed Values) Find 3 combinations that balance with a red square & yellow rhombus (together).	15-5 14-5 13-5 12-5 11-5 What's your strategy?	Fold a piece of paper in half 2 times. Open it. How many rectangles? Now, fold it in half 3 times. How many rectangles? 4 times? Can you find a pattern?	How many times can you fold a piece of paper in half? Predict and try. Try it with 4 different sizes of paper. Can you make the same number of folds with all sizes?

* Website Directions: Go to: illuminations.nctm.org Click on **ACTIVITIES**. Click on **K-2** and press **SEARCH**.

grade 3.July calendar.10

Book is available through Brookline's public libraries or Minuteman library network (▼)

Δ These games are available in stores.

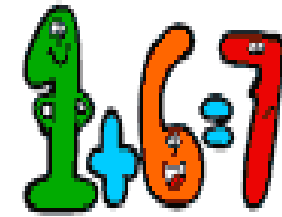
Parent's Signature: _____

Child's Name: _____

Created by the Math Department, Public Schools of Brookline, Revised Spring 2010



August Third Grade Calendar Brookline



Directions: Complete **any** 20 math boxes and color in the box after you complete it. Return the Math Calendar to school in the fall.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Play a game. Close to 1000 (see directions)	The 3 numbers in my fact family are 8, 4 and 12. What two addition and two subtraction number sentences can you make?	How tall are you? Measure your height with a tape measure (or paper clip chain). How tall is an adult? Measure and compare the difference.	3 groups of 5 4 groups of 5 5 groups of 5 6 groups of 5 7 groups of 5 What's your strategy?	Set the table for dinner. How many utensils will you need for 6 plates? 8 plates? Describe the pattern. Estimate 12 plates w/o counting.	15+5 16+5 17+5 18+5 19+5 What's your strategy?	Play Ten Frame "How Many?" on the web.* Record all the number sentences with a sum of ten.
Play a game like Δ Chips or Shut the Box.	Play Patch Tool on the web.* Choose a shape. Make a pattern using the rotate tool.	19-6 18-6 17-6 16-6 What's your strategy?	Read •Two Ways to Count to Ten by Ruby Dee. Show 3 ways you can count to 20 using numbers or money.	Make a repeating pattern using at least 2 different objects (stickers, coins, etc.) How many patterns can you make?	Play a game like ΔUno or Othello.	10+10 10+11 11+11 11+12 12+12 What's your strategy?
Play a game. Rectangles (see directions)	Estimate how long it will take you to clean your room. Make a prediction, write it down, set the timer and clean. How close were you?	I am thinking of an odd number. It is greater than 33 and less than 40. You say it when you skip count by 5s. What number am I?	A 3 rd grader needs about 10 hours of sleep at night. If Kelly has been sleeping for 7 ½ hours, how many more hours of sleep does she need?	Read •26 Letters and 99¢ by Tana Hoban. Show 3 ways to make 27¢ using any coins. Use only 4 coins to make 17¢.	In California it is 3 hours earlier than it is in Boston. What time will it be in California when you eat lunch? When you go to sleep?	What time is it now? Write down the time. What time will it be in 30 minutes? What time was it 60 minutes ago?
Read •The King's Commissioners by Aileen Friedman. How many ways can you group 43? What would the princess do?	Play 10 questions. One person thinks of a number between one and 100. The other person asks 10 yes or no questions to guess it.(ex: is it odd? Is it > 50? etc.).	Think of a special day you are looking forward to. How many days until that special day? How many weeks?	Explore a website* Play Pan Balance-Shapes (Fixed Values) Find 3 combinations that balance with 1 purple triangle.	Collect 10 leaves. Determine the leaf with the largest area by using your thumbprint (dip in paint) or pennies to measure. How many cover a leaf?	21+10 31+10 41+10 51+10 61+10 71+10 What's your strategy?	Can you grow and shrink in one day? Outside, make an X with chalk for your feet to stand on. Have an adult trace your shadow early in the morning, noon, and late afternoon. What did you notice?

* Website Directions: Go to: **illuminations.nctm.org** Click on **ACTIVITIES**. Click on **K-2** and press **SEARCH**.

grade 3.August calendar.10

• Book is available through Brookline's public libraries or Minuteman library network (▼) Δ These games are available in stores.

Parent's Signature: _____

Child's Name: _____

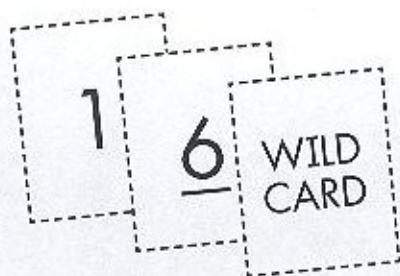
Created by the Math Department, Public Schools of Brookline, Revised Spring 2010



Close to 1,000

You need

- Digit Cards
(1 deck per pair)
- *Close to 1,000*
Recording Sheet



Play with a partner.

- 1 Deal out eight Digit Cards to each player.
- 2 Use any six cards to make two numbers. For example, a 6, a 5, and a 2 could make 652, 625, 526, 562, 256, or 265. Wild cards can be used as any digit. Try to make two numbers that, when added together, give you a total that is close to 1,000.
- 3 Write these numbers and their total on the *Close to 1,000* Recording Sheet. For example, $652 + 347 = 999$.
- 4 Find your score. Your score is the difference between your total and 1,000.
- 5 Put the cards you used in a discard pile. Keep the two cards you did not use for the next round.
- 6 For the next round, deal six cards to each player. Make more numbers that have a sum close to 1,000.
- 7 When you run out of cards, mix up the discard pile and use them again.
- 8 After five rounds, add your scores to find your final score. The player with the lower final score wins.

Variation

Write the score with plus and minus signs to show whether your total is less than or greater than 1,000. For example, if your total is 999, your score is -1 . If your total is 1,005, your score is $+5$. The total of these two scores is $+4$. Your goal is to get a final score for five rounds that is as close to 0 as possible.

Name _____

Date _____

**Landmarks and Large Numbers****Close to 1,000** Recording Sheet

Game 1	Score
Round 1: _____ + _____ = _____	
Round 2: _____ + _____ = _____	
Round 3: _____ + _____ = _____	
Round 4: _____ + _____ = _____	
Round 5: _____ + _____ = _____	
Final Score	_____

Game 2	Score
Round 1: _____ + _____ = _____	
Round 2: _____ + _____ = _____	
Round 3: _____ + _____ = _____	
Round 4: _____ + _____ = _____	
Round 5: _____ + _____ = _____	
Final Score	_____

Pairs of 100

Materials: Pairs of 100 Recording Sheet
Numeral Cards from 0 - 9

Players: 2

Object: To find pairs of numbers with a sum of 100.

Note: To play the game more than once, make multiple copies of the recording sheet before using it. Alternately, put the recording sheet in a clear sheet protector, use a dry erase marker and the sheet can be reused.

How to Play:

1. Mix the cards and place them face down.
2. One player picks a card to be the tens digit of a number. The other picks a card to be the ones digit. Record the number on the recording sheet under **Number We Picked**. Return the cards to the pile.
3. One player colors in the squares on the 10 x 10 grid to represent the number picked, using rows of 10 and ones as needed.
4. The other player determines how many squares are not colored in, and records the number in the row **Number Needed to Make 100**.
5. Players switch roles for each round. Players can challenge themselves to find the second number without using the 100 grid.

Pairs of 100

Number We Picked					
Number Needed to Make 100					

Number We Picked					
Number Needed to Make 100					

Rectangles

Basic Game:

Object: Players roll dice to determine the length and width (and/or area) of a rectangle. They then place that rectangle (if possible) on a grid. The player with the largest area of their grid filled at the end of the game is the winner.

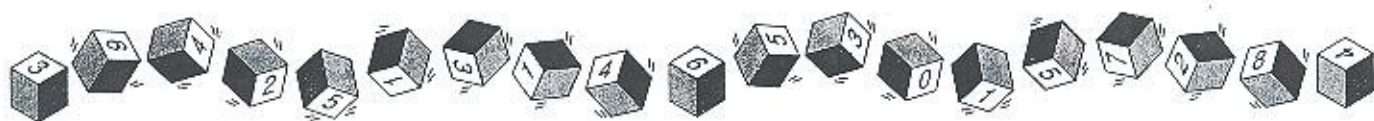
Number of Players: 2 – 5

Materials: Dice, one colored pencil for each player, one grid for each player.

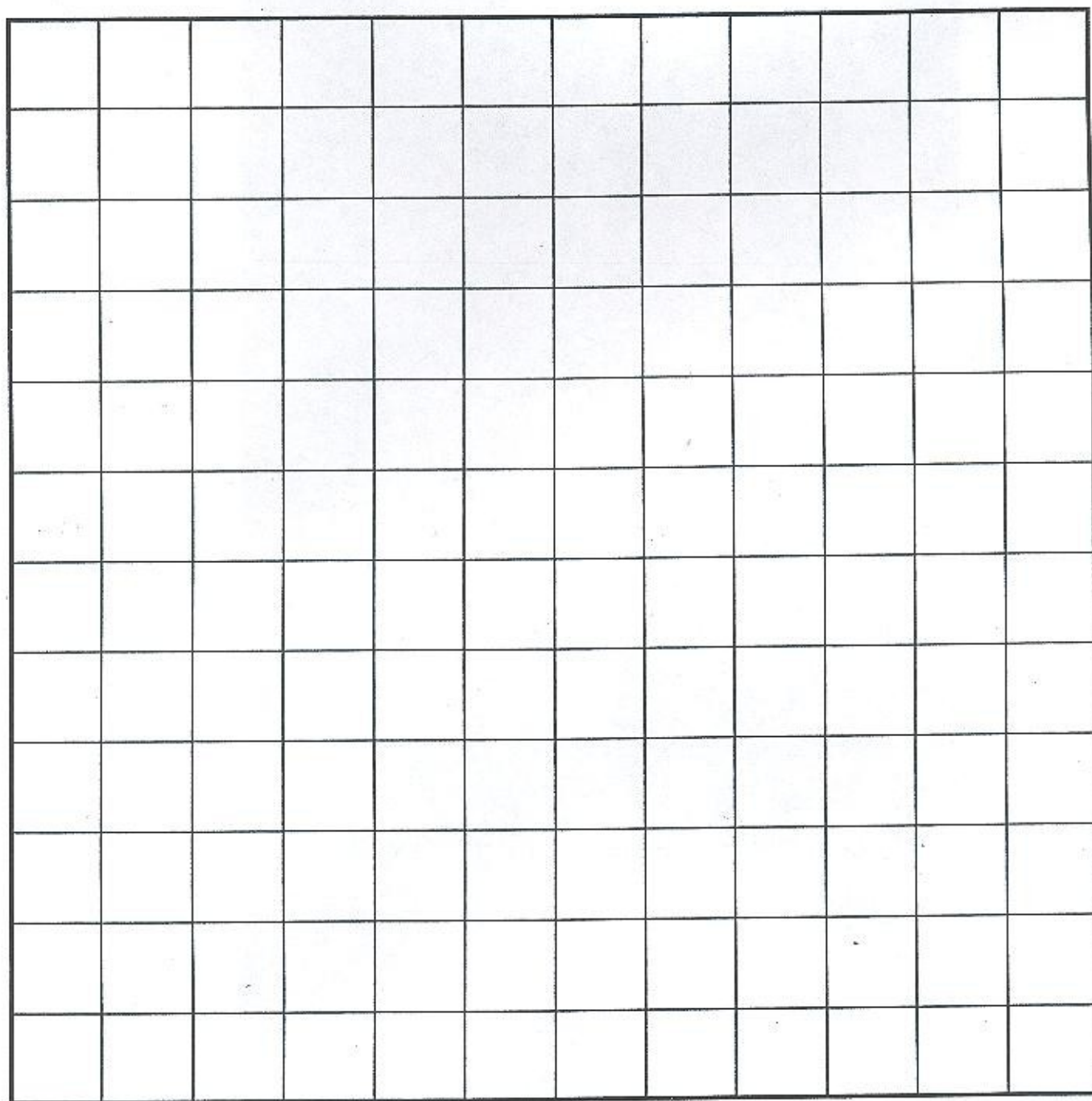
Playing:

1. Players take turns. During a turn, a player rolls the dice and constructs a rectangle with the length and width rolled. The player then colors in the rectangle and calculates his/her score by finding its area.
2. The rules for placing rectangles are as follows: All rectangles must be placed entirely within the grid area; the edges of rectangles may touch but do not have to; rectangles may not overlap each other; and no rectangle may be placed within another rectangle.
3. Players drop out of the game and calculate their total score when their throw of the dice gives them a rectangle that will not fit on their grid. The last player to place a rectangle on his or her grid gets a 10 point bonus. The game ends when all players have dropped out.

Modification: 2 players can play on one grid, competing for the available space.



Rectangles



Turn Over 10

Materials: Deck of Number Cards (four of each) plus four wild cards (you can use a face card)

Players: 2 to 3

Object of the Game: to collect more combinations of 10 than the other players

How to Play:

- 1) Arrange the cards face down in four rows of five cards. Place the rest of the deck face down in a pile.
- 2) Take turns. On a turn, turn over one card and then another. A wild card can be made into any number.
 - If the total is less than 10, turn over another card.
 - If the total is more than 10, your turn is over and the cards are turned face down in the same place.
 - If the total is 10, take the cards and replace them with cards from the deck. You get another turn.
- 3) Place each of your card combinations of 10 in separate piles so they don't get mixed up.
- 4) The game is over when no more 10's can be made.
- 5) At the end of the game, make a list of the number combinations for 10 that you made.